Announcements

- Register for the Monthly Disease Surveillance Trainings to receive CMEs/CNEs:
  - Log-on or Request log-on ID/password: https://tiny.army.mil/r/zB8A/CME
  - Register for Epi-Tech Surveillance Training: https://tiny.army.mil/r/dVrGO/EpiTechFY14
- Communicate with your Service surveillance hub to ensure you get information on future trainings: POC info in chat box
- Confirm attendance for today's training:
  - Enter your name/service into chat box or email your Service hub
  - You will receive a confirmation email within the next 48 hours; If you do not receive this email, please contact us
- PLEASE put your phones on mute when not speaking

Chikungunya Surveillance

Prevention and Protection

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Objectives:

1. Chikungunya (CHIK) mosquito vectors: behavior, vector competence and other relevant factors for CHIK surveillance and control.

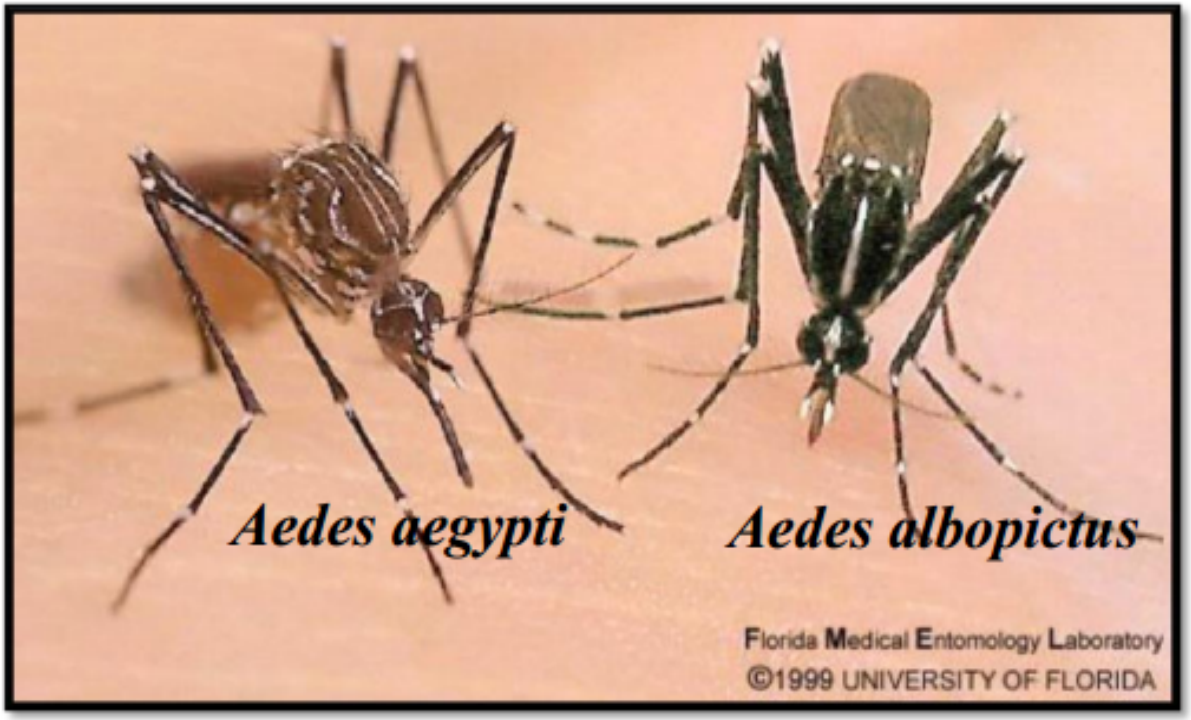
2. Installation pest and vector management program requirements
   and how to enhance those programs for CHIK response.

3. Enhanced clinical surveillance and reporting recommendations (AFHSC and Service recommendations).

losquito Vectors:

- ***Aedes aegypti*** (yellow fever mosquito).
- ***Aedes albopictus*** (Asian tiger mosquito).

- Vector identificati



Aedes aegypti (left) and *Aedes albopictus* (right) mosquitoes can be distinguished from each other by the presence of a white stripe on the thorax of *Aedes albopictus*.

CONUS Mosquito Vector Distribution:

Aedes aegypti (yellow fever mosquito)
(Asian tiger mosquito)

Aedes albopictus

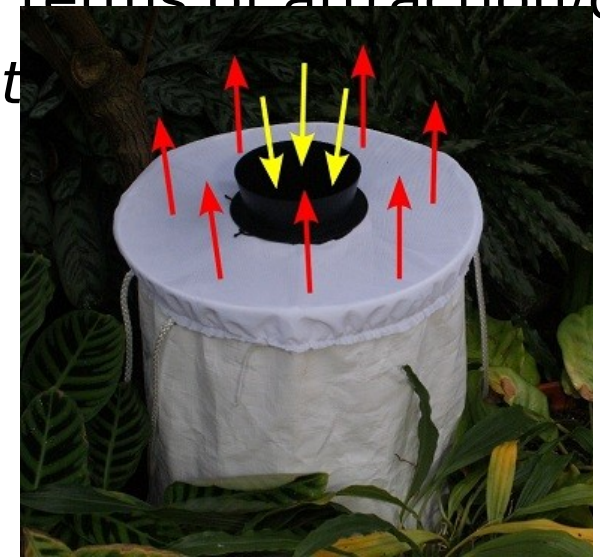
ease vector competence:

- Three described genotypes of CHIKV
  - West African
  - East/Central/South African (ECSA)
  - Asian
- *Ae. aegypti* & *Ae. albopictus* are competent for all genotypes of CHIKV.
- Caribbean/Americas have experienced local transmission of Asian strain.
- Although *Ae. aegypti* more competent, *Ae. albopictus* is a competent vector for the Asian strain.
  - **The spread of CHIK and threat to CONUS US is real**

ease vector surveillance:

- Both vectors are active during daylight hours
  - Particularly morning and late afternoon
- Surveillance must be tailored to vector
- Biogents Sentinel Trap (BGS) or CDC light trap during daylight hours

r in terms of attraction/capturing *Ae. aegypti*
pict



ease vector surveillance:

- Per DoD Instruction, all installations are required to have Integrated Pest Management Plans (IPMPs).
  - DODI 4150.07
  - Navy: OPNAV 6250.4C; Air Force: AFI 32-1053; Army: AR 40-5
  - Service specific guidance/relationships
- IPMPs ideally incorporate emergency vector control plans (EVCPs).
- Military entomologists available to assist with creation & implementation.
- Relationship b/t Medical Departments and Facilities (ie NAVFAC/Public Works) for surveillance of pests and vectors of public health importance.
- **Bottomline: Installation Medical Depts must be familiar with and ensure disease vector surveillance**

ase vector surveillance and control:

- Common means of assessing *Ae. aegypti* and *Ae. albopictus* populations are egg, larval, adult, or container surveys (i.e. Breteau index).

- See the Navy Entomology Center of Excellence CHIK Vector Surveillance and Control Plan for more complete details at:
  - **http://www.med.navy.mil/sites/nmcphc/Documents/program-and-policy-support/Chik-Vector-Surv.pdf**

- NOTE: **Source reduction of breeding habitat** for these two vectors is of utmost importance and first line of defense.

- If CHIK cases present near or on installation, larval and adult control should be implemented, to include chemical control. Contact your POCs for guidance.

ase surveillance and control resources:

- Armed Forces Health Surveillance Center recommendations:
  - http://www.afhsc.mil/home

- Navy and Marine Corps Public Health Center Chikungunya webpage:
  - http://www.med.navy.mil/sites/nmcphc/program-and-policy-support/Pages/Chikungunya.aspx

- Army: U.S. Army Public Health Command, Chikungunya Fact Sheet:

http://phc.amedd.army.mil/PHC%20Resource%20Library/Chikungunya_FS_18-029-0714.pdf

- USPHC Army Vector-borne Disease Report:

http://phc.amedd.army.mil/whatsnew/Pages/PublicationDetails.aspx?type=Army%20Vector-borne%20Disease%20Report

ase surveillance and control resources:

- Armed Forces Pest Management Board:
  - Chikungunya Preparation:
    - http://www.afpmb.org/content/chikungunya-preparation
  - Dengue and Chikungunya Vector Control Pocket Guide:
    - http://www.afpmb.org/sites/default/files/pubs/techguides/tg47.pdf

- Navy and Marine Corps Public Health Center Chikungunya webpage:
  - http://www.med.navy.mil/sites/nmcphc/program-and-policy-support/Pages/Chikungunya.aspx

- Rutgers-USDA Asian Tiger Mosquito Area Wide Management Project:
  - http://www.rci.rutgers.edu/~AWATM/index.html

ease surveillance and control:

- Diagnostic considerations: travel, differential diagnoses, dengue considerations
- Suspicious symptoms: acute onset of fever and polyarthralgia, especially travelers who returned within two weeks from areas with virus transmission
- Can be lab confirmed via:
  - Viral isolation
  - Detection of viral RNA by RT-PCR.
  - Detection of IgM in a single serum sample (collected during acute or convalescent phase).
  - Four-fold increase in chikungunya-specific antibody titers (samples collected at least two weeks apart).
  - Note: Since clinical presentations of chikungunya and dengue are very similar, dengue must be ruled out. Send blood for serology and/or RT-PCR

ease surveillance and control:

- Clinical Diagnostic Testing
  - USAMRIID Special Pathogens Laboratory
  - NMRC Navy Infectious Disease Diagnostic Laboratory
  - If using a non-DoD lab, recommend saving an aliquot of refrigerated serum
- Mosquito surveillance and testing:
  - Army: USAPHC regional commands
  - Air Force: USAFSAM Epidemiology Consult Service Entomology Program Information https://gumbo2.wpafb.af.mil/epi-consult/entomology/ Also, Contact your MAJCOM Entomologist
  - Navy: regional NEPMUs and Navy Entomology Center for Excellence

ease surveillance and control:

- Report Chikungunya cases via Disease Reporting System internet as “Any Other Unusual Event” or “Arboviral Encephalitis” depending on Service-specific guidance
  - Include in the report: clinical presentation, travel history, hospital admission status/dates, deployment information
  - Report in a timely manner to enable rapid implementation of control measures
- If you suspect a case, call your service surveillance hub
  - Can advise on and assist with case investigation, lab testing and vector control measures
- Know your local civilian reporting requirements as well as what mosquito control measures localities have in place.
- ***Situation is fluid: expect reporting guidance to evolve ***

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rmy Points of Contact:

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Questions:

Additional references consulted listed in notes below.